

grows *Cotula filicula* and *C. reptans*, the dainty white and blue-flowering *Scavola Hookeri*, *Brachycome scariformis*, *B. cardio-carpa*, and *B. stricta*, *Gratiola nana*, the pink *Geranium sessiliflorum*, *Mentha serpillifolia*, the white-flowering *Claytonia Australasica*, the blue-petalled *Caladenia angustata*, *Cardamine hirsuta*, *Lagenophora Billardieri*, *Haloragis depressa*, *Plantago Brownii*, and on rocks the silvery-leaved *Gnaphalium alpigenum*. The river is lined with *Olearia lepidophylla*, now and again by the pink flowers of *Comesperma retusum*, *Bellenden montana*, and *Blandfordia marginata*, the whole prettily contrasted by bushlets of *Drimys aromatica* and *Telopea truncata*, surrounded by masses of *Chiloglottis Gunnii* and the blue-flowering *Lobelia anceps*.

After again receiving the hospitality of the station people, the day of our ultimate departure arrived with the 14th January, and so ended a botanical tour into the mountains, where every walk appears to be the contents of a book, which stimulates innumerable thoughts and pictures. From the rock, whose weather-worn surface is covered with mosses and lichens; from the alpine flower-gardens, where the gentle kangaroo grazes with its young, up to the gnarled and stunted pines and gum-trees and the crystal, glittering snow-fields, over which the stately eagle soars, are the leaves of this writing of Nature to be seen. The one will read out of this book more, the other less; but all the art of reading rests in this: to analyze and recognize out of the superabundance of appearances and the individual occurrences the eternal law of the whole and the ingenious arrangement of things.

This paper, dealing with our botanical observations, may be considered as a supplement to the illustrated general account of the trip given in the *Launceston Weekly Courier*, 22nd and 29th September, 1910; and, in conclusion, I desire to express my thanks to Mr Leonard Rodway, Government Botanist, for his kind help in identifying the collected specimens.

DESCRIPTIONS OF AND NOTES ON SOME AUSTRALIAN HESPERIDAE.

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 (Read before the *Field Naturalists' Club of Victoria*, 11th March, 1912.)

ANISYNTA TILLYARDI, n. sp.

Male. Above. Forewing rich dark brown: long hairs of basal third, barely reaching costa, orange-brown: a small subquadrate spot in end of cell, dull orange: a subapical transverse series of three minute dots, dull orange: a pair of very small discal spots in interspaces 2 and 3, dull orange: rarely traces

only of a narrow discal streak in lower edge of interspace 1, dull orange: cilia rich black, sometimes very narrowly dull orange between veins. Hindwing rich dark brown: long hairs of central and basal area, reaching dorsum but not reaching costa, orange-brown: cilia rich black, faintly edged dull orange between veins.

Beneath. Forewing brown-black: costa and apex orange-brown: cell spot as above but brighter orange: subapical dots as above: rarely a very minute obscure discal dot in interspace 3, dull orange: a series of obscure streaks in apex, cream: cilia cream, at veins black. Hindwing orange-brown: a basal and a discal series of irregular small rings, red-brown: a broad streak in cell, a broader between veins 4 and 6, a broad streak in interspace 1*b*, and a streak in interspace 7, cream: a sub-terminal series of elongate spots, and a terminal series of small spots, cream: cilia cream, at veins black.

Female. Above. Forewing as in male: spots and dots much larger, and often paler: always an irregular discal streak in lower edge of interspace 1: cilia more clearly chequered. Hindwing as in male: usually an irregular spot in end of cell, orange: cilia more clearly chequered.

Beneath. Forewing as in male: cell spot larger and bright orange: subapical dots larger and two nearest costa, cream: discal spots in interspaces 2 and 3 always present, usually slightly larger than above, and bright orange.

Antennae with clubs brown-black above and orange-brown beneath, bent evenly at the middle, and ending in a blunt point: shafts of antennae brown-black, annulated with cream very narrowly above, and more broadly and irregularly beneath. Palpi with third joint short, slender, horizontal: second and third joints clothed above with brown-black hairs sparsely mixed with cream, and clothed beneath with cream hairs tipped with brown-black.

Expanse (one wing). Male, 13-15 mm. Female, 14-16 mm.

Locality. Ebor, N.S.W., in January and December, at 4,000 to 4,200 feet.

Type series (60♂, 25♀) in collections Waterhouse and Lyell.

The species is fairly constant in its markings, only varying in the diminishing of the pale spots of the forewing above, an occasional male having these almost entirely absent. The orange spots, both above and beneath, especially those nearest the margins, pale to almost dull white in worn specimens.

We have dedicated this very distinct and striking species to Mr. R. J. Tillyard, M.A., to whom we are indebted for a fine,

long series. It was taken at an elevation of 4,000 to 4,200 feet, within a few miles of Ebor (Guy Fawkes), on the Dorrigo Plateau. The creeks flowing along the deep gullies of this plateau eventually reach the Nymboida, a large tributary of the Clarence River. The butterfly kept to the gullies, showed a fondness for exploring the precipitous sides of the gorges, and was not noticed wandering over the hill sides above: it seemed to show a distinct preference for mint. The first examples were taken in the closing days of December, and by the middle of January those still on the wing were no longer in good condition.

We place this species in Lower's new genus *Anisynta* (Trans. Roy. Soc. S.A., vol. xxxv., p. 141, 1911) on account of its antennal characters, and the absence of stigma in male. With the exception of the undersurface of the hindwing, it strongly resembles the Western Australian *A. sphenosema*, Meyr. and Lower, to which it is evidently closely allied. The hindwing beneath has a very closely superficial resemblance to the much smaller alpine species *Hesperilla monticolae*, Olliff.

HESPERILLA DOMINULA, Ploetz. Stettiner Entomologische Zeitung, 1884, p. 379.

Mr. Tillyard also sent us a long series of this rare species, and after careful comparison, we are now quite sure that *H. drachmophora*, Meyrick, must sink as a synonym. It was taken in the same district as *A. tillyardi*, but at rather higher elevation (4,500 to 4,800 feet). The specimens are in finer condition and somewhat larger than any of the examples from Mt. Kosciusko and Tasmania. The male varies somewhat in the forewing above: this is sometimes a uniform brown but for the darker stigma and the chequered cilia; sometimes it has a subapical transverse series of three very minute pale yellow dots; more rarely a minute discal dot in interspace 3; and very rarely a small comma-shaped dot in end of cell. The female varies only slightly, and that but in the size of the pale spots.

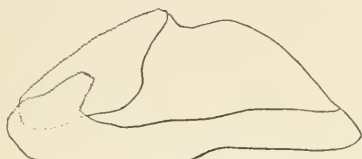
TRAPEZITES PHIGALIOIDES, Waterhouse. *T. maheta*, var. *phigalioides*, Waterhouse, *Victorian Naturalist*, vol. xx. (1903), p. 56.

When describing this species as a variety, it was anticipated that it would prove to be the southern race of *T. maheta*, as the females resembled each other very closely. This is not so, for a male example of typical *T. maheta* has since been captured by Mr. Jas. A. Kershaw, F.E.S., at Wilson's Promontory, Victoria. We have now examined the genitalia of *T. maheta*, *T. phigalioides*, and *T. iacchoides*, and we find they show the three to be distinct species. It will be seen from the illustrations herewith that

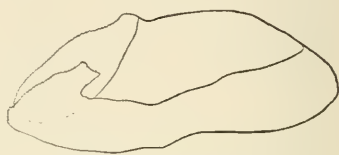
T. phigalioides and *T. iacchoides* are more closely allied to each other than to *T. maheta*. We therefore have no hesitation in raising the two supposed varieties to specific rank.



Trapezites maheta.



Trapezites iacchoides.



Trapezites phigalioides.

TRAPEZITES IACCHOIDES, Waterhouse. *T. maheta*, var. *iacchoides*, Waterhouse, *Victorian Naturalist*, vol. xx. (1903), p. 56.

When describing this species as a variety, it was known by a single male example only. A series of that sex has since been secured, and Mr. G. M. Goldfinch (to whom we are greatly indebted) took a single female at Como (13 miles south of Sydney) in November, 1911. The silver markings of the underside of the *female* hindwing, and the differing genitalia as illustrated, leave no doubt of its claim to specific rank. We now give a description of the female, the type of which is in the Waterhouse collection.

Female. Above. Forewing dark brown: a large subquadrate spot in end of cell, orange, hyaline, with a small dot above it, orange: a transverse subapical series of three small spots, pale orange, hyaline: a large elongate discal spot in interspace 2, and a much smaller one in base of interspace 3, orange, hyaline: a quadrate spot, before half from base, in interspace 1, bright orange, and a narrow streak along dorsum, pale orange: cilia brown, at veins brown black. Hindwing brown-black: a broad central band bright orange: a faint streak in cell orange: cilia grey-white, at veins brown.

Beneath. Forewing brown: apex broadly and costa narrowly salmon-grey: basal half of cell narrowly pale orange: spots as above, that of interspace 1 paler. Hindwing salmon-grey: a spot in cell, another in interspace 1*b*, and a discal series of six spots (that in interspace 1*b* much the largest), silvery white margined black: cilia salmon-grey, at veins brown.

Expanse (one wing), 19 mm.

Except for the somewhat larger orange spots, the somewhat less acute apex, and the more convex termen of forewing, the female differs but slightly from the male.

The three allied species *T. maheta*, *T. phigalioides*, and *T. iacchoides* and the less closely related *T. phigalia*, will be somewhat puzzling to those collectors who possess but few examples, and the following notes should therefore prove useful.

T. maheta is sexually dimorphic, the male only having the bright silvery spots on the undersurface of the hindwing. *T. iacchoides* has small, but more and differently placed (to *T. maheta*), spots on the hindwing beneath, and they are silvery in both sexes. *T. phigalioides* and *T. phigalia* are without any trace of silvery spots. The female of *T. phigalioides* and in lesser degree that of *T. phigalia*, closely resembles the female of *T. maheta*.

T. maheta is known from Kuranda, in Northern Queensland, to Jervis Bay, and we have a single record as far south as Wilson's Promontory: it has two broods yearly and is taken (in Sydney) from September to April.

T. iacchoides is only known from the Blue Mountains, Como, and Pambula (all in New South Wales), and is single brooded; September to January.

T. phigalioides has been taken at Beaconsfield (1,000 feet) and Gisborne (1,500 feet), Victoria, and at Jenolan Caves (3,000 feet), New South Wales, and is single brooded; November to January.

T. phigalia is taken in Southern Queensland, in the Blue Mountains, and as a semi-alpine species in Victoria, and is single brooded; September to December.

OCYBADISTES AFFINIS, n. sp.

Male. Above. Forewing brown-black: costa powdered orange: an elongate spot in outer half of cell, and a streak along median vein, bright orange: a subapical transverse series of three elongate *confluent* spots, bright orange: a discal band of spots from vein 1 to vein 6, those in interspaces 4 and 5 only half the width of the lower ones, bright orange: a faint streak along dorsum, and a faint streak in interspace 1 orange: cilia brown-black, tips paler, at tornus orange: a discal sexmark from vein 1 to vein 4 dull black. Hindwing brown-black: a broad *straight* discal band of confluent spots, bright orange: cilia orange.

Beneath. Forewing brown-black: a broad spot in end of cell, and costa to beyond end of cell, orange: subapical spots and discal band as above but pale orange. Hindwing dull brown: costa suffused pale orange: an obscure ternal patch

brown: a dot in cell, pale orange: discal band as above but pale orange, and irregularly edged brown: termen with a brown line.

Female. Above. Forewing as in male: spot of discal band in interspace 2 distinctly larger; sexmark absent. Hindwing as in male.

Beneath. Forewing as in male: second discal spot larger. Hindwing as in male.

Antennae above dark brown, beneath orange except tip of club red-brown. Palpi with third joint very slender, short and erect.

Expanse (one wing)—male, 12 mm.; female, 13 mm.

Localities. — Kuranda, Queensland, February to June. Cairns, Queensland, June to August. Mackay, Queensland.

Types in collection Waterhouse.

This species, of which we have 12 males and 9 females, closely resembles *O. marnas*, Felder, but is of such smaller average size. It may be recognized from that species by the spot in interspace 5 of fore-wing above being always present, and the three sub-apical spots being much larger and always confluent. The orange band of hindwing is also much straighter, and the streak along vein 1*b* is absent. We have had examples of *O. affinis* in our collections for a number of years, but regarded them as small *O. marnas*. When, however, we caught it at Cairns last June, its manner of flight and general habit pointed to its being a species distinct from *O. marnas*, which we caught at the same time. An examination of the male genitalia has placed this beyond doubt.

Our adoption of Lower's genus *Anisynta* makes a reference to his recent revision of the Australian *Hesperidae* (Trans. Roy. Soc. S.A., 1911, vol. xxxv.) necessary. This provides a considerable number of new references, and is a distinct advance upon his previous revision (Trans. Roy. Soc. S.A., 1902, vol. xxvi.) But it is unfortunately marred by the same great carelessness in the proof readings and elsewhere. The author swells the number of his recorded Australian species by three forms of *Tagiades*, though he tells us they are not really distinct, and by the inclusion of foreign descriptions, which need hardly be regarded seriously, as when the types come to be examined they are certain to prove either synonyms or non-Australian. He tells us that the genus *Hesperilla* "is separated from *Mesodina* and *Trapezites* by the absence of the stigma in male" when he means "by the presence." Many such careless errors will need correction before his revision can be accepted as a true guide to the family.